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10/634,694

08/05/2003

Se-Youn Lim

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EXAMINER

LEVITAN, DMITRY

ART UNIT

PAPER NUMBER

2616

MAIL DATE

DELIVERY MODE

09/04/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/634,694

Applicant(s)

LIM ET AL.

Examiner

Dmitry Levitan

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 August 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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Amendment, filed 8/14/07, has been entered. Claims 1-4 and 6-13 remain pending.

*Drawings*

1. The drawings were received on 8/14/07. These drawings are acceptable.

In light of Applicant's amendment the objection to the drawings has been withdrawn.

*Specification*

1. The attempt to incorporate subject matter into this application by reference to Korean Application is ineffective because the incorporation of essential material in the specification by reference to foreign application or patent, or to a publication is improper.
2. The attempt to incorporate subject matter into this application by reference to IEEE 802.z and ITU-T G983.1 are ineffective because the cited patents are subject of multiple revisions and changes, some revisions can be dated after the Application has been filed.

Applicant is required to amend the disclosure to include the material incorporated by reference, if the material is relied upon to overcome any objection, rejection, or other requirement imposed by the Office. The amendment must be accompanied by a statement executed by the applicant, or a practitioner representing the applicant, stating that the material being inserted is the material previously incorporated by reference and that the amendment contains no new matter. 37 CFR 1.57(f).

***Requirement for information under 37 CFR 1.105***

3. In the previous Office action, Applicant and the assignee of this application were required under 37 CFR 1.105 to provide the following information that the examiner has determined is reasonably necessary to the examination of this application.

In response to this requirement, to provide a copy of IEEE 802.3ah EFM TF, Draft v1.0, Applicant provided a copy of 802.1ah/D1.0 dated July 2005, what is about three years later than the effective filing date of the current application..

Applicant has not provide a statement that the item is unknown or cannot be readily obtained, which may be accepted as a complete reply to the requirement for that item.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-4 and 6-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

6. Claims 1 and 4 are directed to OLT OAM discovery process, based on the IEEE 802.3ah EFM TF, Draft v1.0 standard, see disclosure page 3 lines 5-15, and are not enabled in lack of this standard, as the applicant was unable to provide a copy of the requested document.

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The disclosure utilizes registration and discovery operations, including numerous IEEE 802.3ah EFM TF, Draft v1.0 messages which are not enabled in the absence of the document.

7. Claims 3 and 8 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification does not provide sufficient details to enable a skilled in the art to make and use the invention because it does not adequately describe the following:

Regarding claims 3 and 8, how to distribute static allocated bandwidth information, as the bandwidth allocation process was not properly disclosed.

The specification does not provide enough details about the structure and operation of the elements associated with the above identified claimed features to enable one skilled in the art to make and use the invention without undue experimentation.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-4 and 6-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 4 limitations directed to assigning by the OLT identifications and starting by the OLT OAM capability discovery are unclear, because it is not understood if these two

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actions are performed in one step/message or two steps/messages of the claims, and if the starting action is performed before or after the assigning action.

***Claim Rejections - 35 USC § 103***

10. Claims 1-4 and 6-9 are rejected (as best understood) under 35 U.S.C. 103(a) as being unpatentable over Gaglianello (ONU auto discovery, IEEE 802.3ah Ethernet in the First Mile Task Force, May, 2002) in view of Admitted Prior Art (Application, pages 2 and 3).

11. Regarding claims 1, 4, 7 and 9, Gaglianello substantially teaches an auto discovery by OLT capabilities of multiple ONUs connected to the OLT in a PON network, (ONU discovery process on pages 3-6), comprising steps:

assigning OLT identification numbers to ONUs according to the ONU registration request, wherein the request comprises the capabilities of ONU ("discovery Gate" message from OLT, shown on page 9, as the message requests ONU capabilities for OLT as the ONU enters the Discovery State, pages 5-8, including the registration, wherein the registration numbers for ONUs are inherently assigned, because these numbers are essential for the system operation, as the ONUs have to be identified by the system), and

receiving by the OLT the ONU capabilities message sent by the respective ONUs in response to the OLT request (receiving REGISTER REQUEST by OLT, comprising the ONU capabilities, shown on page 9).

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Gaglianello does not teach the passive optical network (PON) as an Ethernet PON and the OLT and ONU capabilities to include Operations, Administration and Maintenance (OAM) functions.

Admitted Prior Art, APA, teaches Ethernet based PON and OAM capabilities as a basic function for the network 3:5-10.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add using Ethernet PON and Operations, Administration and Maintenance (OAM) functions of APA to the system of Gaglianello to provision the OAM capability of the system.

In addition, regarding claims 4, 7 and 9, Gaglianello teaches predetermined period of time for reporting/registering ONUs by using discovery gates to define discovery windows for retransmission of the discovery messages on pages 11 and 13; and confirming the ONU registrations by OLT register command on page 9.

12. Regarding claim 2, Gaglianello teaches OLT confirming the received capabilities message to the ONU, as echo of ONU capabilities from OLT to ONU, as shown on page 9.

13. Regarding claim 6, Gaglianello teaches ONU collision resolution process to retransmit the ONU message if the message has not been acknowledged, page 11.

14. Regarding claims 3 and 8, Gaglianello teaches sending messages comprising ONU and OLT capabilities, including PHY ID, as shown on Fig. 9.

Gaglianello does not teach using a first field to specify allocated bandwidth and a second field to specify information on the network topology.

Official notice is taken that using fields in a message is well known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add using first field to comprise bandwidth as the network elements capabilities and a second field with PHY ID of the network element to the system of Gaglianello to improve the system operation with user's different bandwidth requirements.

15. Claims 10 and 12 are rejected (as best understood) under 35 U.S.C. 103(a) as being unpatentable over Gaglianello in view of APA in view of Sutherland (US Pub. 2003/0177215).

Gaglianello in view of APA substantially teaches the limitations of claims 10 and 12.

Gaglianello in view of APA does not teach a field for representing an operation state of the message.

Sutherland teaches a discovery technique for EPON system, including the message structure, comprising an opcode 532, specifying the type of function for the control frame, as shown on Fig. 5 and [0055].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add a field for representing an operation state of the message of Sutherland to the system of Gaglianello in view of APA to improve the system operation with multiple type of frames by identifying the type of the frame function.

### ***Response to Arguments***

16. Applicant's arguments filed 8/14/07 have been fully considered but they are not persuasive.

On page 10 of the Response, Applicant argues that incorporation by reference of the foreign application is necessary to request earlier effective filing date.



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Examiner respectfully disagrees.

Applicant should request an earlier effective filing date based on the date of the foreign application. However a request of the earlier date is not an incorporation by reference.

In addition, Examiner did not object to using underscored spacing in the text, but to random separation of words, like “d iscovery m ethod” on page 4, line 5.

On page 11 of the Response, Applicant argues that requested standards under 37CFR 1.105 rule are not essential matter to provide enablement.

Examiner respectfully disagrees.

In the Background of the invention, page 3, applicant refers to IEEE 802.3ah EFM TF, Draft v1.0 for OAM capabilities as a basic function of the application and based the invention on the defining in depth the IEEE 802.3ah EFM TF, Draft v1.0 operation processes.

On page 12 of the Response, Applicant argues that static bandwidth allocation, as claimed in claims 3 and 8 is well-known in the art and therefore enabling.

Examiner respectfully disagrees.

Applicant failed to provide any evidence to support his statement. The application, as filed, comprises no information on distribution of static allocation bandwidth in the disclosed system.

In addition, Fig. 6 of the disclosure, comprising a field for static allocation bandwidth, is not enabling in the absence of IEEE 802.3ah EFM TF, Draft v1.0, as the processes for storing information in this field and other fields of Fig. 6 message are missing.

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On page 13 of the Response, Applicant argues that the disclosed invention teaches EPONB network determines the function from a corresponding OAM message between the OLT and ONU before transmitting the OAM control message.

Examiner respectfully disagrees.

Applicant's arguments are not directed to the corresponding portions of claims limitations, and therefore irrelevant.

On page 13 of the Response, Applicant argues that Admitted prior Art does not disclose all the functions of OAM.

Examiner respectfully disagrees.

Applicant's arguments are irrelevant as they are not directed to the application claims limitations.

### ***Conclusion***

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

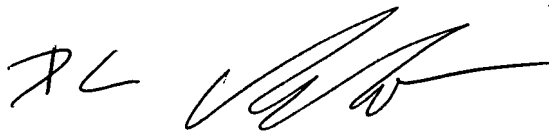
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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Levitan whose telephone number is (571) 272-3093. The examiner can normally be reached on 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on (571) 272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Handwritten signature of Dmitry Levitan, consisting of stylized initials 'DL' followed by a cursive signature.

Dmitry Levitan  
Primary Examiner  
Art Unit 2616

**DMITRY LEVITAN  
PRIMARY EXAMINER**